Two New Subfamilies of Monogenenetic Trematodes

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AN evolutionary sequence of genera within the monogenetic trematode family Dactylogyridae will go far toward improving the current state of classification of this family. As some point of reference is a basic necessity, the most variable and most readily observable structures are best utilized as the main bases of such a proposal. Among the monopisthocotylean monogenetic trematodes two highly variable entities exist, the copulatory complex (sclerotized male genital organs) and the attaching armament of the haptor (posterior attaching disc). Of the two, the sclerotized portions of the haptor seem to furnish more significant information.

During the course of this study, it has become apparent that a definite need exists for establishment of two additional subfamilies within the Dactylogyridae. Recognition of these subfamilies should aid in better understanding the evolution within this family.

CURRENT TAXONOMIC STATE OF THE FAMILY

In his monograph concerning the Monogenea, Yamaguti (1963) lists four subfamilies as comprising the Dactylogyridae: Dactylogyrinae Bychowsky, 1933; Ancyrocephalinae Bychowsky, 1937; Linguadactylinae Bychowsky, 1957; and Geneticoenterinae Yamaguti, 1963.

One of the major characters differentiating the various subfamilies is the number of anchors (large haptoral hooks) present in the haptor. As pointed out by Yamaguti, the number of anchors is a sound trait on which to base subfamilial classification.

Members of the Dactylogyrinae possess a single pair of anchors. The species belonging to this taxon are morphologically homogeneous and seem to warrant subfamily status without question.

More study is required before acceptance or refutation of the proposed subfamilies Geneticoenterinae and Linguadactylinae. Both are apparently closely related to the subfamily Ancyrocephalinae.

It is the subfamily Ancyrocephalinae which represents what is probably the most confused area among the many confused areas of classification within the suborder Monopisthocotylea. Presently containing more than 50 genera, the Ancyrocephalinae is overburdened with taxonomic errors, inconsistencies, and synonymy. It is hoped that the present work will make a worthwhile contribution to the taxonomy of this group.

PROPOSED NEW SUBFAMILIES

All but three of the 50 or so genera currently included in the Ancyrocephalinae possess four anchors in the haptor. *Heteronchocleidus* Bychowsky (1957) and *Trianchoratus* C. Price and Berry (1966) are monotypic genera whose members possess three anchors. The genus *Anacanthorus* Mizelle and C. Price (1965) contains three species, all of which lack anchors entirely.

The atypical architecture of the haptors of these three genera is here interpreted by the present author as being of a highly divergent nature, and these genera should not be grouped with parasites possessing four anchors. These divergent genera quite definitely belong in the Dactylogyridae, but in subfamilies other than the Ancyrocephalinae.

As the three involved genera were originally placed in the subfamily Ancyrocephalinae on several bases, thus establishing them as showing affinities with that group, the subfamily diagnoses can be given quite simply.

HETERONCHOCLEIDINAE n. subfam. Dactylogyridea: Dactylogyridae. With characters of the superfamily and family, some characters of the Ancyrocephalinae. Three anchors, one median and a bilaterally symmetrical pair posterolateral. Hooks 14 or 16. Included genera: *Heteronchocleidus* and *Trianchoratus*.

ANACANTHORINAE n. subfam. Dactylogyridea: Dactylogridae. With characters of the superfamily and family, and some characters of the Ancyrocephalinae. Anchors lacking. Hooks 18. Only included genus: *Anacanthorus*.

KEY TO SUBFAMILIES OF DACTYLOGYRIDAE

As more study is required concerning the validity or proper status of the subfamilies Geneticoenterinae Yamaguti and Linguadactylinae Bychowsky, they are omitted from the following key.

1. Haptor without anchors	Anacanthorinae
1a. Haptor with anchors	2
2. Haptor with 2 anchors (1 pair)	Dactylogyrinae
2a. Haptor with 3 anchors	Heteronchocleidinae
2b. Haptor with 4 anchors (2 pairs)	Ancyrocephalinae

SUMMARY

Three divergent genera of monogenean trematodes have been removed from the subfamily Ancyrocephalinae and placed in newly established subfamilies of the family Dactylogyridae. This taxonomic adjustment is made primarily on the number of anchors present in the haptor. The genera *Heteronchocleidus* Bychowsky and *Trianchoratus* C. Price and Berry are placed in the new subfamily Heteronchocleidinae; members of these genera possess three haptoral anchors. The genus *Anacanthorus* Mizelle and C. Price, the members of which lack anchors entirely, is placed in the new subfamily Anacanthorinae.

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